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Real Paths of Brilliant Meteors observed in 1908.

By W. F. Denning.

The following are the real paths of brilliant meteors observed in England (except No. 3 recorded in Holland and Belgium) and computed by me during the present year. I gave a few details of several fireballs which appeared in 1907 in *The Observatory* for June 1908.

As far as I can judge, a rather unusual number of large meteors have been seen and described during the last two years, but in many cases the accounts have been isolated, so that definite results as to the height, etc. could not be ascertained.

The Perseids were fairly rich in 1908, and included a large proportion of bright objects, several of which were recorded at two stations. At Bristol the first Perseid was noticed on July 21, the last on August 19. The extreme limits of visibility of the shower appear to be from July 7 to August 25, with a radiant moving to E.N.E. from 7° + 44° to 66° + 59°. But minor systems are somewhat involved with the true Perseids, and it is occasionally difficult to separate them from Cassiopeids and Camelopardids in the earlier and later stages of the display.

Date.	G.M.T.		Mag.	Height at first. Miles.	Height at end. Miles.	Path. Miles.	Velocity per sec. Miles.	Radiant. α	Radiant. δ	
1908.	h	m						°	°	
May 17	9	43	> ♀	76	28	57	15	194	+20	Coma Berenicid
19	10	20	> ♀	69	45	142	22	252	−20	α Scorpiid
27	12	28	> ♀	58	55	120	15	76	+43	α Aurigid
June 25	10	43	> 1	61	59	51	30	43	+37	β Perseid
28	11	12	♀	67	45	84	12	237	−18	η Librid
July 1	9	15	½ = ☽	61	27	105	18	250	−20	α Scorpiid
28	11	6	= ☽	82	40	50	34	302	+23	η Sagittid
Aug. 2	10	26	> 1	82	54	50	25	39	+56	Perseid
2	10	30	♃	77	47	57	38	38	+54	Perseid
2	11	2	1	79	55	40	40	34	+54	Perseid
2	12	7	♃	61	49	32	21	337	−11	δ Aquarid
10	10	17	♃	72	45	52	29	43	+57	Perseid
11	9	44	> 1	99	52	93	35	46	+59	Perseid
11	11	38	1	90	51	61	...	44	+57	Perseid
Sept. 14	8	48	2 × ♀	59	32	71	...	6	+ 7	γ Pegasid
Oct. 14	9	10	> ♀	70	18	96	24	42	+20	ε Arietid

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Note on the number of Faint Stars with large Proper Motions.

By H. H. Turner, D.Sc., F.R.S., Savilian Professor.

1. The existence of stars like Groombridge 1830, which is of 6·5 magnitude and has a P.M. of 700″ a century, larger than that of the brightest star known, suggests that there may be stars of (say) the 12th magnitude with proper motions so large as to be easily measurable. At first sight it would also appear that since there are many more stars of the 12th magnitude than of the 6th, the cases of large P.M. would also be more numerous. Accordingly, when Mr. C. L. Brook generously presented a stereocomparator to this observatory, search was made on plates for the Astrographic Catalogue which had, for one reason or another, been repeated after an interval of some years, for cases of sensible proper motion among faint stars. The results were most disappointing, practically nothing being found after a good deal of time spent in searching. It was thought that perhaps the réseaux on the two plates troubled the observer too much, and rendered his eyes less sensitive to small differences (see remarks by Dr. Max Wolf in *Mon. Not.*, lxiv. p. 112), and it was determined to take some plates without a réseau when the work of revision and printing of results for the catalogue was completed. The increase of the interval in the meantime would be a gain.

2. A recent visit of Professor Kapteyn to Oxford recalled attention to the question of P.Ms. of faint stars. He was anxious to get some provisional results, and it occurred to me that it would be worth while to compare the actual measures of plates of the same region taken at an interval of ten to fifteen years. We have many plates which were taken and measured in 1892 and following years, but which do not come up to the standard of the later work, and were accordingly repeated recently in the general revision which Mr. Bellamy has assiduously conducted as we come to print each zone. For stars in the same region, we thus have two sets of measures separated by an interval comparable with that proposed by Professor Kapteyn in his scheme for "sampling" the heavens; and since provisional constants have been deduced for each plate, the work of reducing one to the other is straightforward. It involves, of course, a considerable amount of arithmetical work; but it seemed desirable to face this labour in order to get a general idea of the results to be expected.

3. A number of regions have been already examined, and it soon became clear why we had drawn blank with the stereocomparator. The number of sensible P.Ms. of faint stars is in fact very small, and the results for +28° zone, which is now completed, will illustrate this point.

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